

**MULTIPLE-SOURCE ARRAYS WITH OPTICAL TRANSMISSION  
ENHANCED BY RESONANT CAVITIES**

Abstract of the Invention

A multiple source array for illuminating an object including: a reflective mask  
5 having an array of spatially separated apertures; at least one optic positioned relative to  
the mask to form an optical cavity with the mask; and  
a source providing electromagnetic radiation to the optical cavity to resonantly excite a  
mode supported by the optical cavity, wherein during operation a portion of the  
electromagnetic radiation built-up in the cavity leaks through the mask apertures towards  
10 the object.